



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,648	12/21/2001	David A. Williams	P01,0387	1489
23494	7590	06/03/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			SOHN, SEUNG C	
			ART UNIT	PAPER NUMBER
			2878	
DATE MAILED: 06/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/027,648	Applicant(s) WILLIAMS ET AL.	
	Examiner Seung C. Sohn	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-21 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. ***Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawtell (Patent No. US 5,949,225).***

Regarding claims 1, 4-6, 8-9, 11-14 and 16-17, Sawtell shows In Figs. 1-3 the following elements of Applicant's claim:

- a) an optical coupler (302) having input leads and output leads isolated from said input leads;
- b) a current monitor (312, i.e., voltage divider) connected to said input leads;
- c) a reference level ( $V_{ref}$ ); and
- d) a operational amplifier (326) having a first input (348) connected to said current monitor and a second input (350) connected to said reference level, an output of said operational amplifier connected to vary current to said input leads of said optical coupler depending on input signals to said operational amplifier.

Art Unit: 2878

**Regarding claims 2 and 3**, Sawtell shows in Fig. 2 that an active element (232, i.e., transistor) is connected at said output of said operational amplifier (206), said active element being connected to vary current to said input leads of said optical coupler depending on an output signal from said operational amplifier.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. ***Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawtell (Patent No. US 5,949,225) in view of Martin-Lopez et al. (Patent No. US 5,387,822).***

Sawtell discloses the claimed invention as above, but does not disclose that the active element is a shunt regulator. Martin-Lopez et al. shows in Fig. 1 a shunt regulator (TL431) (Col. 1, lines 32-64). It would have been obvious to a person having ordinary skill in the art to provide the shunt regulator of Martin-Lopez et al. in the device of Sawtell for the purpose of generating an error signal (Col. 1, lines 35-38).

Art Unit: 2878

5. ***Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawtell (Patent No. US 5,949,225).***

Sawtell discloses the claimed invention as above, but does not disclose that said transistor is a field effect transistor. However, it is notoriously well known in the art that a field effect transistor is an alternate substitute for a transistor. It would have been obvious to a person having ordinary skill in the art to provide a field effect transistor in the device of Sawtell, instead of the transistor, for the purpose of controlling output current.

***Allowable Subject Matter***

6. **Claims 18-21 are allowed.**

7. The following is an examiner's statement of reasons for allowance:

**Claims 18-21** are allowable because the prior art fails to disclose or make obvious, either singly or in combination, a gain controlled feedback circuit comprising, in addition to the other recited features of the claim, "a second active element connected to selectively draw current from said first active element and said input of said optical coupler, said second active element operating relative to a second reference value to hold a gain through said optical coupler substantially constant".

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2878

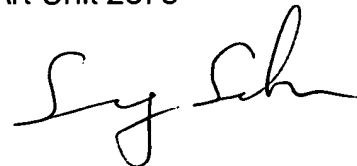
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung C. Sohn whose telephone number is (571) 272-2446. The examiner can normally be reached on Monday through Friday from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seung C. Sohn  
Examiner  
Art Unit 2878

A handwritten signature in black ink, appearing to read 'Seung C. Sohn', written in a cursive style.